SCOPE OF WORK

UNITED STATES AGENCY FOR GLOBAL MEDIA

THAILAND TRANSMITTING STATION; UDORN TRANSMITTER PLANT

REQUEST FOR PROPOSALS (RFP) TO PROVIDE LABOR SERVICES FOR REPLACEMENT

OF COPPER PIPE FOR COOLING THE MARCONI TRANSMITTER, UDO-1, UDO-2

M&R #2114/2021 PROJECT

BACKGROUND/STATEMENT OF NEED:

The 29-year-old Marconi Transmitters utilizes ionized water to cool the various internal tubes and capacitors. Each week the technicians have to deal with pinhole water leaks due to the thinning copper pipes, which has resulted from 29 years of oxidization effects. Some of these pipes are so thin that they collapse during the repair. The situation is now reached critical mass for a complete overhaul of the piping system. The station will embark on a 3-year plan to replace all copper pipes utilized in the water-cooling system and enhance the ability of USAGM radio transmitting facilities to perform their broadcast mission.

OBJECTIVE(S):

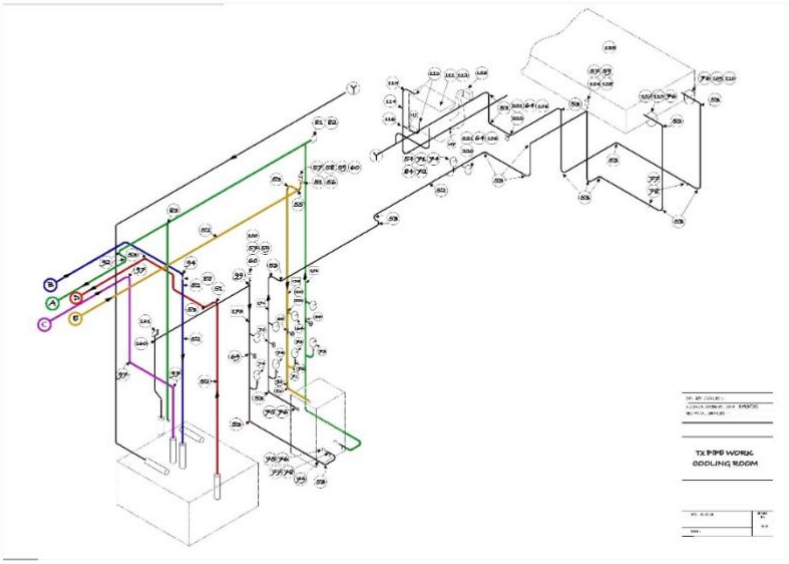
The U.S. Agency for Global Media, Thailand Transmitting Station at Udorn Thani (USAGM/TTS), would like to request proposals to provide labor services to replace the primary cooling system's copper pipe and pipe fittings of two Marconi 500-kilowatt Shortwave (UDO-1 and UDO-2). Details of all required work are provided in the attached drawings and pictures. Work is to be performed at USAGM/TTS, Amphoe Ban Dung, Udonthani province. The contract type shall be a firm-fixed-price.

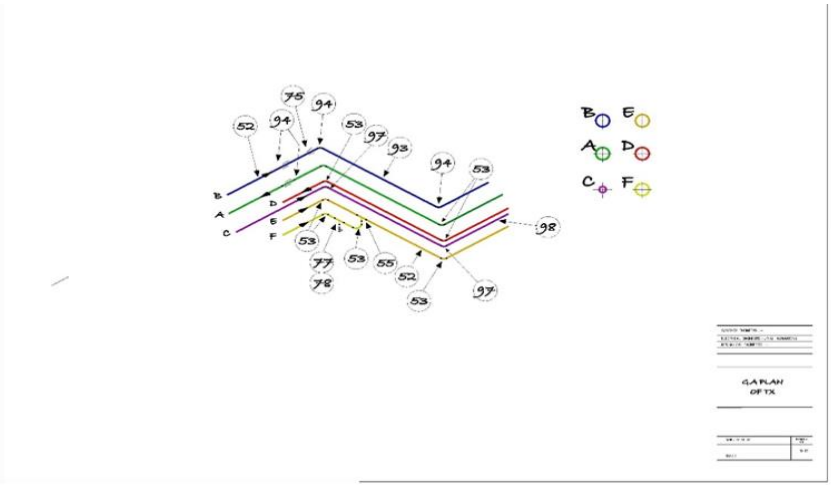
SCOPE OF WORK:

The contractor shall provide all the necessary supervision, labor, services, and all tools required for uninstalling the existing pipes, installing the new pipes, pipes soldering and brazing, including but not limited to brushes, cleaning pads, oxy/gas, oxy/acetylene or oxy/propane torch and Soldering & Brazing Gas Torch with Propane. (The copper pipes, copper fittings, copper gate valves, and flux will be provided by the USAGM/TTS and installed by the Contractor).

The Contractor shall perform all necessary work to complete this project and qualified service adhering to OSHA safety standards guidelines and referencing cooling system drawing (1) and pictures 1-4 (Appendix 1) as a baseline for copper pipes connection and pipe fittings design:

Drawing #1





The contractor shall move all the uninstalled pipes and materials to one of the designated storage spaces in the USAGM facility area and clear and clean the working area of any construction debris, tools, and other materials at the end of each working day.

The Contractor shall provide skilled workers, and tools to perform the brazing and soldering for installation of the new copper pipes and accessories to match with the existing cooling system design and as indicated during the site survey. All work shall be accomplished by skilled workmen familiar with and trained to do this type of work; moreover, they shall be qualified operate or use equipment and tools to accomplish this work. Proper tools and equipment shall be used in every procedure of work.

GENERAL RANGE FOR WATER COOLING SYSTEM COMPONENTS INSTALLATION:

PRELIMINARIES

(1) Select and inspect the correct size of the tube and fitting for the job. Ensure pipes are clean and free of any deformation, imperfections, dents, damages, and in good condition. If the tube is oval or damaged, use a re-rounding tool.

(2) Remove any burr inside and outside the tube ends using a fine-toothed file.

(3) Clean the inside of the fitting socket and the outside of the tube with a cleaning pad, fine sandpaper, or steel wool.

JOINTING

(1) Using a suitable brush, apply adequate – but not excessive – flux to both the outside surface of the tube and the inside surface of the fitting socket. Applying the flux material should be done using the proper tools; the technician must not use their finger as an application tool.

(2) Insert the tube into the fitting until it reaches the tube stop, then wipe off any excess flux. Heat the assembled joint until a complete ring of solder appears at the mouth of the fitting.

(3) Allow the joint to cool without disturbance. Clean the joint generally, wiping off any external flux residues. This will prevent unsightly stains or (in extreme cases) pipework corrosion. Flush out the pipework.

GENERAL HIGH DUTY FOR PUMP/TANK ASSEMBLY INSTALLATION:

PREPARATION: The preparation of copper pipe General High Duty fittings differs slightly from those for copper pipe general range fittings. Details of these differences are as follows:

(1) A hacksaw should be used to cut the General High Duty tubes – a rotary cutter must not be used for this application as it can reduce the diameter of the tube ends.

(2) An alumina-based paper or cloth can also be used to clean the fitting socket as an alternative to a cleaning pad or fine sandpaper. Steel wool tools should not be used with General High Duty tube sockets.

(3) General High Duty fittings require the use of the correct flux. We recommend Degussa "H" ready mixed paste, although satisfactory joints can be made using other suitable silver brazing alloy fluxes. Silver brazing alloy fluxes must be used with care and always in a well-ventilated area.

JOINTING

(1) Using a suitable brush, apply adequate – but not excessive – flux to both the outside surface of the tube to a length slightly greater than the socket depth and the inside surface of the fitting socket. Applying the flux material should be done using the proper tools; the technician must not use their finger as an application tool.

(2) Insert the tube into the fitting until it reaches the tube stop, using a twisting action to ensure flux spread. Ensure the tubes are correctly lined up and adequately supported – otherwise, distortion or cracking may occur at brazing temperature.

(3) Heat the socket and tube gently using an oxy/gas, oxy/acetylene, or oxy/propane torch to approximately 700ºC – a visible red heat in poor daylight. Use a large, soft, neutral, or slightly reducing flame, keep the torch moving, and continue heating until a complete ring of solder appears around the socket mouth - this is proof of a sound joint. Continue to heat generally for a few seconds. Repeat this method for each joint in turn.

FINAL INSPECTION AND SYSTEM TESTING: The Contractor shall perform a thorough inspection and test for all work upon completion to pass the qualification testing certifying that the cooling system complies with 1.5 times the system's working pressure. The cooling system operates at the service temperatures @30-40°C has a maximum flow rating of 332 liter/minute with a pressure of 119 psi.

SITE SURVEY/VISIT: The site survey will be scheduled for 02/24/2022 or 02/25/2022 10:00 AM. Contractors interested in bidding and conducting site survey are welcome to schedule a site visit during either of the scheduled days above. The site visit will be conducted under the TX unit supervisor; contractors' will be able to survey copper pipes, copper fittings, and copper gate valve in the primary cooling of the two Marconi 500-kilowatt Shortwave Transmitters (UDO-1 and UDO-2) and the surrounding area gathering any additional data related to the copper pipe project during the site survey, including cooling copper pipes measurement if necessary.

PERFORMANCE PERIOD: The project's performance period is 14 calendar days per one transmitter from the issuance of the Notice-to-Proceed.

PROPOSAL EVALUATION CRITERIA: technically acceptable offeror/quoter who is a responsible contractor for the key personnel, at least three years' of hand-on field experience, utilizes oxy-acetylene and electric welding, brazing, soldering, and silver-plating equipment to refurbish, repair and fabricate ferrous and non-ferrous materials are required.

WARRANTY: The contractor shall warrant all the workmanship, including but limited to soldered fittings and capillary fittings completed under this contract for a minimum of one year. The effective warranty start date shall begin immediately after the successful completion of final commissioning at the site by COR.

CONTRACTOR'S MOBILIZATION AREA: The Contractor is permitted to use the area identified by the Contracting Officer's Representative to operate their equipment and shops, warehouse, and offices. The Contractor is cautioned that he shall be responsible for security within the mobilization area. On completion of the contract, all facilities shall be removed from the mobilization area by the Contractor. The site shall be cleared of construction debris and other materials, and the area restored to its final grade. The Contractor shall provide all utilities required to make the site self-sufficient.

WORKING HOURS: The Contractor shall perform its site installation work during normal USAGM business hours, currently between 8:00 a.m. to 3:00 p.m. Monday – Friday except on Thai and American holidays. Any on-site work by the Contractor outside of these hours must be coordinated in advance with and approved in writing by the Contracting Officer.

NOTICE OF DELAY: If the Contractor becomes unable to complete the contract work at the time(s) specified in the awarded contract because of technical difficulties, notwithstanding the exercise of good faith and diligent efforts in the performance of the work called for hereunder, the Contractor shall give the Contracting Officer written notice of the anticipated delay and the reasons therefor. Such notice and reasons shall be delivered promptly after the anticipated delay's condition becomes known to the Contractor. When notice is so required, the Contracting Officer may extend the time specified in the Schedule for such period as deemed advisable

SAFETY REQUIREMENTS AND SUBMITTALS:

1. Contractor will provide Personal Protective Equipment for his employees, as typically industry standards required for the work being performed, such as but not limited to gloves, shoes, visors, and protective glasses.

2. Accident Reporting - A copy of each "Accident Report," which the Contractor or subcontractor submits to its insurance carriers, shall be forwarded to the Contracting Officer as soon as practicable, but in no event later than 7 calendar days after the date an accident occurs. All lost-time injuries to Contractor or subcontractor personnel during project construction require the Contractor to submit an Accident Report as stated above.

ON SITE PERSONNEL & SUPERVISION:

1. At all times when any work is being performed on site, the Contractor shall have a Supervisor present and in charge of the work who can communicate in the English language and the language of those performing the work. At any time the supervisor temporarily leaves the work area, he shall designate an Acting Supervisor. The objective of this requirement is always to have a designated person in charge of the work present.

2. All work under this contract shall be performed in a skillful and workmanlike manner. All workmen shall wear shoes and proper clothing while accomplishing the work. The Contracting Officer may require, in writing, that the Contractor removes from the work any employee the Contracting Officer deems incompetent, careless, or otherwise objectionable.

3. There shall be no drugs, liquor, firearms, or explosives on the worksite at any time. All departing Contractor vehicles and employees are subject to search.

SITE SECURITY:

1. The Contractor shall provide the names of all of its personnel working on-site to the Contracting Officer within 5 workdays after the issuance of the Notice-to proceed by the Government.

2. The Contractor shall be fully responsible for site security of its materials and work from theft, fire, and vandalism.

3. The contractor is not allowed on site after working hours, during official holidays, or weekends without the proper Contracting Officer Representative prior approval.

CONTRACTOR'S USE OF USAGM SITE:

1. USAGM will occupy and conduct normal business operations at the site during the entire contract performance period. Any work by the Contractor that could disrupt normal operations must be coordinated with and approved by the Contracting Officer's Representative.

2. The Contractor's use of the USAGM managed premises shall be limited to the immediate areas where the work is being performed and reasonable access routes to these areas. Use of toilet facilities, canteens, etc., at the existing station shall be as approved by the Contracting Officer's Representative.

3. The contractor shall be responsible and liable for any damage to USAGM property or equipment caused by his staff during operation.

APPENDIX 1:

Picture #1

Picture #2

Picture #3

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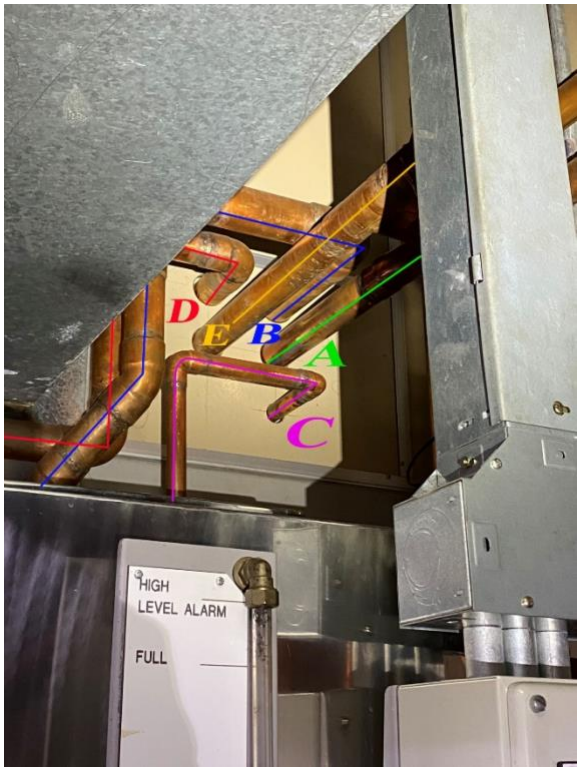
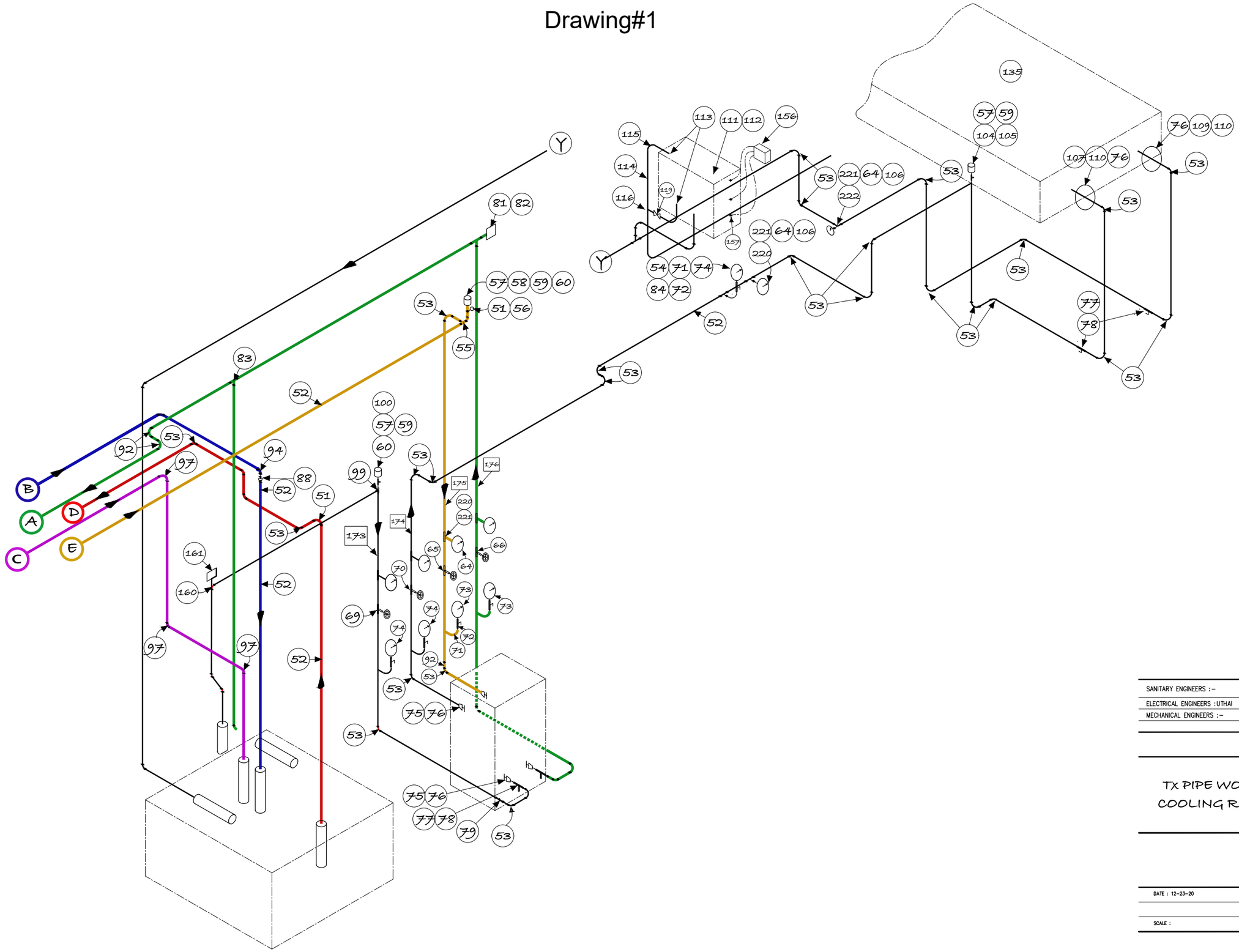


Picture #4

END OF STATEMENT OF WORK

Drawing#1



SANITARY ENGINEERS :-

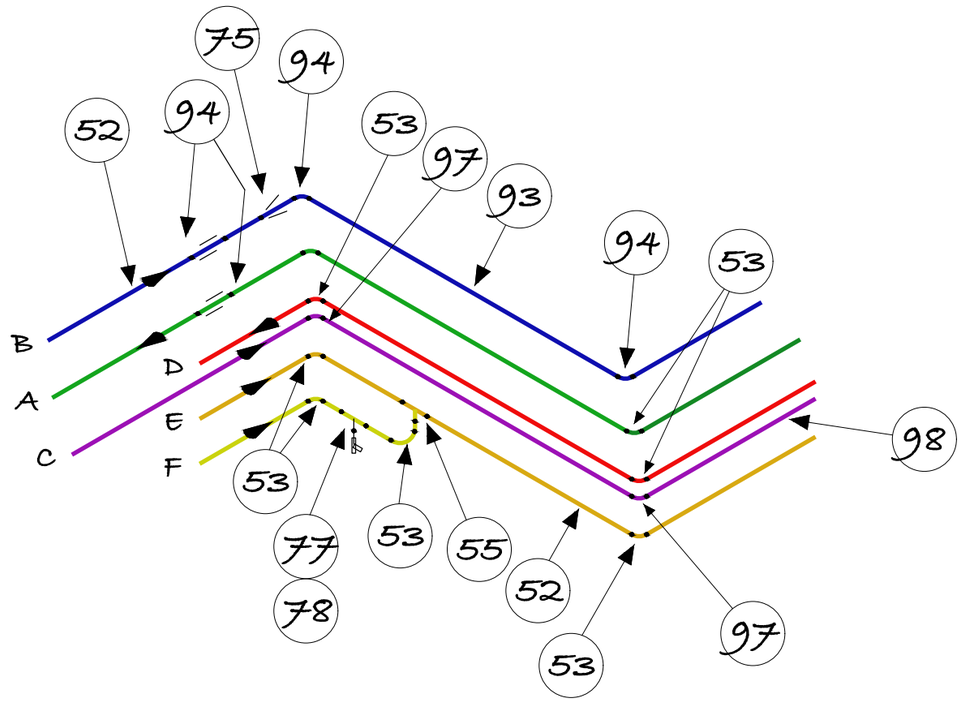
ELECTRICAL ENGINEERS :UTHAI KAWANTONG

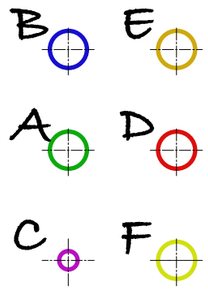
MECHANICAL ENGINEERS :-

TX PIPE WORK
COOLING ROOM

DATE : 12-23-20	DRAWING NO.
SCALE :	TX-01

Drawing#2





SANITARY ENGINEERS :-

ELECTRICAL ENGINEERS :UTHAI KAWANTONG

MECHANICAL ENGINEERS :-

G.A PLAN
OF TX

DATE : 12-28-20	DRAWING NO.
SCALE :	TX-02